BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Quadrennial Planning Process II — Docket No. 5-FE-100

COMMENTS OF THE CITIZENS UTILITY BOARD IN RESPONSE TO THE COMMISSION'S REQUEST FOR COMMENTS

March 14, 2014

I. INTRODUCTION.

Pursuant to the Request for Comments issued on January 30, 2014 (PSC REF#: 197869) (Request) and the Notice of Extension of Comment Period issued on February 17, 2014 (PSC REF#: 199481), the Citizens Utility Board (CUB) submits these comments regarding the appropriate goals, priorities, and measurable targets for the statewide energy efficiency and renewable resource programs in the 2015-2018 quadrennium.[1] CUB's comments address all of the issues identified by the Public Service Commission (PSC or Commission) in its Order dated January 10, 2014 (PSC REF#: 197255) (Scoping Order) and respond to the questions identified in the Request. CUB's comments generally follow the order of the questions listed in the Request. Each comment heading also cross-references the issue number and letter it corresponds to in the Scoping Order. The conclusion of these comments contains a summary of CUB's recommendations on each issue in the Scoping Order. CUB's comments primarily address the goals, priorities, and targets of Focus on Energy's (Focus) energy efficiency and renewable resource programs and do not discuss utility voluntary programs, with the exception of one suggestion for a potential new utility voluntary program.

[1] In accordance with its intervenor compensation application and award in Docket No. 1-IC-478 (PSC REF#: 199544 and 200116), CUB's comments were prepared by Resource Insight, Inc. and Energy Futures Group with assistance from CUB's in-house staff.

Overall, CUB submits that the Focus program has been performing well and has provided significant benefits for customers of the state's investor-owned utilities. However, there is always room for improvement, and in these comments CUB offers several recommendations to help ensure that Focus continues to provide benefits in excess of its costs. In CUB's view, the importance of Focus in the 2015-2018 quadrennium is also elevated in light of the United States Environmental Protection Agency's (EPA) impending greenhouse gas regulations for existing sources. CUB's comments regarding those regulations and the role Focus could play in meeting them are necessarily general and preliminary since the draft rules have not yet been released. Nevertheless, CUB agrees with the Commission[2] and other commenters[3] that Focus should play an important role in Wisconsin's efforts to comply with the rule. To that end, the Commission should consider whether legislative changes to remove the cap on Focus spending and to restore the Commission's ability to determine the optimal size and scope of the program should be pursued.

II. CUB COMMENTS.

A. Role of Focus in Positioning Wisconsin to Cost-Effectively Meet Federal Carbon Standards [Scoping Order Issue 5.b.].

1. Assuming demand-side energy efficiency will be an allowable compliance mechanism, should Focus be used to cost-effectively meet federal carbon standards? Why or why not?

CUB supports the Commission's decision to consider how best to employ Focus programs to comply with impending federal carbon standards. As discussed below, investments in cost-effective energy efficiency savings are likely to be the most-economic option for meeting carbon limits. However, with annual spending capped at 1.2 percent of revenues, it is critical that

[2] *See* Request, pp. 2-3.
[3] *See, e.g.*, Docket No. 5-FE-100, Clean Wisconsin's Comments Regarding the Appropriate Scope of the Quadrennial Planning Process II, p. 3 (PSC REF#: 188325).

the Commission review program priorities and goals with an eye toward ensuring that Wisconsin can generate the energy savings needed to meet compliance standards anticipated for 2020 and beyond (i.e., longer-term) at the lowest feasible cost to customers.

To that end, CUB urges the Commission to set goals, priorities, and targets that would employ energy-efficiency resources to meet federal carbon limits to the maximum extent feasible and cost-effective. Of the limited range of options available for reducing emissions of greenhouse gases from power plants, energy efficiency has the greatest potential to yield the most economic benefits to Wisconsin residents and businesses.[4] In other words, while the *direct* cost of energy efficiency may be greater than that for some other carbon-mitigation measures, the *net* cost (i.e., net of monetized benefits) will almost certainly be less.[5]

As documented by the EPA, energy efficiency offers numerous monetary and macro-economic benefits in addition to reducing carbon emissions.[6] Cost-effective energy efficiency savings reduce system production costs, avoid investments in generation, transmission, and distribution plant, reduce transmission and distribution losses, create jobs, reduce reliance on imported fuels, and otherwise enhance energy security.

Although the current expectation is that states will not have to file implementation plans under the new greenhouse gas rules until mid-2016, there is good reason for the Commission to prepare Focus to assist in complying with those rules as part of Quadrennial Planning Process II.

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[4] Cost-effective energy efficiency will undoubtedly not be the sole measure utilized to comply with federal carbon standards. Over time, the least-cost compliance portfolio might consist of some combination of energy efficiency savings, generating plant efficiency improvements, coal plant retirements, increased dispatch of existing gas generation, and investment in new utility-scale and distributed renewable generation.

[5] For example, McKinsey & Company have developed a greenhouse gas abatement cost curve, which shows that energy efficiency measures have the lowest net costs of the range of feasible abatement measures. See McKinsey & Company, "Version 2.1 of the Global Greenhouse Gas Abatement Cost Curves: Impact of the financial crisis on carbon economics," at 8, Exhibit 6 (August 2010) available at http://www.mckinsey.com/client_service/sustainability/latest_thinking/greenhouse_gas_abatement_cost_curves.

[6] EPA, *Assessing the Multiple Benefits of Clean Energy: A Resource for States*, ch. 5 "Assessing the Economic Benefits of Clean Energy Initiatives" (September 2011), available at: http://epa.gov/statelocalclimate/resources/benefits.html.

First, the program has already demonstrated cost-effectiveness under the Total Resource Cost (TRC) test when avoided emissions benefits are not included in the TRC calculation.[7] As such, there is little risk in making such investments in anticipation of federal carbon standards, because the programs will be beneficial for customers even in the absence of such standards. Moreover, with the statutory cap on annual Focus spending, it may take some time to build up the amount of savings from energy efficiency programs required to comply with federal carbon standards at the lowest feasible cost to Wisconsin ratepayers. Finally, carbon regulations may allow for "banking" of emissions reductions achieved prior to 2020 for the purposes of complying with standards anticipated for 2020 and beyond. If so, investments in cost-effective Focus savings that yield reductions in carbon emissions prior to 2020 would contribute to meeting compliance requirements in 2020 and beyond. Thus, Focus should be one of the most important tools to assist in meeting carbon reduction standards.

2. What changes to Commission policies regarding energy and demand savings would better position Focus (and utility voluntary programs) to assist in the state's compliance with federal carbon standards?

The Commission's current policy is that Focus should emphasize energy savings to a greater degree than demand savings.[8] As explained below, CUB believes that Focus should continue to prioritize energy savings over demand savings to use Focus' currently limited funds to better assist the state in complying with federal carbon standards. In addition, CUB recommends that the Commission encourage utility voluntary program initiatives in geographically targeted transmission and distribution (T&D) constrained areas to mitigate the need for avoidable T&D investments.

[7] *See* The Cadmus Group, Focus on Energy Calendar Year 2012 Evaluation Report, Volume I (August 28, 2013) at 52 ("2012 Focus Evaluation Report") available at: https://focusonenergy.com/about/evaluation-reports. Eliminating emissions benefits from Table 20 results in the following TRC ratios: Residential: 1.88; Nonresidential: 2.37; and Total: 2.24.
[8] Request, p. 3.

a. Continue to prioritize energy savings over demand savings in general in Focus programs.

The Commission's current policy that a greater value should be placed on energy savings rather than demand savings is consistent with an approach to best position Wisconsin to meet federal carbon emission regulations. To maximize carbon reductions, the Commission should continue to emphasize Focus spending that reduces consumption (and thus generation) in all hours of the year over investments targeted to reducing load primarily at the time of system peak.

Also, both because they provide a number of different benefits (energy savings, system peak savings, T&D savings, emission reductions, etc.) and because they tend to be much longer-lasting, energy efficiency programs tend to provide much greater value than demand response programs. Even within the realm of efficiency, measures and programs that have the highest peak demand benefits (e.g., air conditioning measures) tend to have fewer economic benefits (i.e., lower benefit-cost ratios) in climates like Wisconsin's.

b. Encourage geographically targeted initiatives in T&D constrained areas to mitigate the need for avoidable T&D investments.

Since the budget available for Focus is limited by statute and for the reasons explained above, Focus should continue to emphasize energy savings over demand reduction. However, reducing peak demand can also play an important role in meeting federal carbon standards and can help delay or divert costly capacity and T&D investments.[9] As such, the Commission should encourage the utilities to evaluate a voluntary program that employs geographically targeted initiatives in T&D constrained areas to mitigate the need for avoidable T&D investments.

[9] *See* Request, p. 3, noting that some utilities have indicated that they may be seeking capacity increases in the next five years.

Wisconsin expects to need a number of investments in its T&D infrastructure to meet system reliability requirements over the next decade (and beyond).[10] However, a growing number of jurisdictions are finding that geographically targeted energy efficiency and demand response can delay or mitigate the need for such investments and lower electricity costs for consumers.

For example, Consolidated Edison Company of New York (Con Ed), the utility serving New York City and some surrounding areas, recently estimated that its system-wide efficiency programs have enabled it to reduce planned T&D capital expenditures by more than $1 billion.[11] In addition, Con Ed routinely assesses whether additional investments in geographically targeted areas could defer T&D upgrades that remain in its plan (i.e., after the plan is adjusted to reflect impacts of system-wide efficiency programs). From 2003 through 2010 (the last year for which such data is publicly available), Con Ed invested an additional $150 million in such geographically targeted efficiency savings. Those additional investments provided net savings of over $300 million to the company's customers.[12] It is worth noting that Con Ed began this internal policy of supporting additional, geographically targeted efficiency programs after a proposed T&D investment plan was rejected by state regulators on the grounds that it was too expensive.

CUB recommends that the Commission consider such opportunities to cost-effectively defer T&D investments in Wisconsin and encourage the utilities to do the same. As with Con Ed

[10] *See*, *e.g.*, Docket No. 6690-CE-198, Wisconsin Public Service Corporation's application to construct electric distribution system improvements on approximately 1,000 to 1,500 miles of its overhead electric distribution system in geographically targeted areas; see also American Transmission Company's 2013 10-Year Plan available at http://www.atc10yearplan.com/.

[11] Gazze, Chris and Madlen Massarlian, "Planning for Efficiency: Forecasting the Geographic Distribution of Demand Reductions," in *Public Utilities Fortnightly* (August 2011), pp. 36-41.

[12] Neme, Chris and Rich Sedano, "US Experience with Efficiency as a Transmission and Distribution System Resource," RAP (February 2012), p.12, available at: www.raponline.org/document/download/id/4765.

and several other jurisdictions,[13] such geographically targeted efficiency investments should be funded outside of the budgets dedicated to Focus programs. The rationale for additional off-budget funding is straightforward. Programs like Focus that are funded through a system-benefits charge are intended to be system-wide, in the sense that they are designed to serve a variety of state policy objectives including reducing energy costs, reducing environmental emissions, reducing risk (e.g., by lowering exposure to fuel price volatility), promoting economic development, and building a lasting efficiency industry infrastructure. Thus, programs funded through a system-benefits charge are typically justified under average system-wide avoided costs. They also provide opportunities to all ratepayers to participate. Put simply, a number of the objectives of system-wide programs cannot be met (or at least not as effectively) through time-limited, geographically targeted efficiency investments. Thus, it would be inappropriate to shift funds from the system-wide programs to fund geographically targeted efforts. In addition, the geographically targeted efforts can be viewed as part of a requirement that utilities manage their system as cost-efficiently as possible.

Additional geographically targeted efficiency investments would not only potentially protect Wisconsin ratepayers from costly T&D investments, but also have the substantial side benefits of reducing system peak demands, energy purchases and environmental emissions. Thus, they would indirectly help facilitate state efforts to comply with future carbon emission regulations.

3. What changes in the design and implementation of Focus programs would better position Focus to assist in the state's compliance with federal carbon standards?

[13] *See*, *e.g.*, Central Maine Power discussion in Neme, Chris and Rich Sedano, "US Experience with Efficiency as a Transmission and Distribution System Resource," RAP (February 2012), pp, 15-16, available at: www.raponline.org/document/download/id/4765.

a. Certain policy changes will help better prepare the Focus program to comply with impending federal carbon standards.

CUB submits that several current Commission policies with respect to the Focus program already provide important support to Wisconsin's preparation for compliance with federal carbon standards. For instance, the Commission's practice of establishing lifecycle savings rather than first-year savings as the metric of success promotes programs that are designed to achieve long-term savings that will be most cost-effective for customers in achieving carbon reductions. Using lifecycle savings rather than first-year savings avoids the perverse incentive to value measures that save energy for only one year just as much as measures that save energy for 10, 20 or even 30 years. Since many shorter-lived measures are less expensive than many longer-lived measures, such "first-year" savings metrics can lead to over-investment in short-lived savings, with significant adverse economic consequences.

Additionally, CUB supports the current policy of including carbon emission factors in the avoided costs for program screening. As discussed above in Section II.A.1, this policy prudently anticipates that there will be additional costs associated with carbon emissions, so that reflecting the value of complying with federal carbon regulations will more likely only require an adjustment in the calculation of the carbon values rather than development of new state policies.

That said, CUB finds that there are other policies that bear closer scrutiny. In the first quadrennial planning process, the Commission found it reasonable "to establish the basic purpose of [energy efficiency and renewable resource program] goals as the reduction of energy use and demand."[14] While broadly speaking CUB agrees with this determination, to assure that program decisions are consistent with the long-term ability to use Focus to meet impending

[14] Order, Quadrennial Planning Process I, Docket No. 5-GF-191 (Wis. PSC November 10, 2010) at 2 (PSC REF# 141173).

carbon regulations, CUB recommends that the Commission develop policy guidance in the following areas:

1. Establish metrics of performance – *in addition to energy and demand savings* – that encourage longer-term development of markets for efficiency technologies and services. This is discussed in more detail *infra* in section II.B.2.; and
2. Encourage consideration of cost-effective demand-side alternatives (again, outside of the statewide Focus program umbrella) to transmission and distribution system investments. This was discussed in more detail *supra* in section II.A.2.b.

These policy actions will enhance Focus' ability to provide cost-effective savings— with their associated carbon mitigation benefits— for the long term.

b. The Commission should consider asking the legislature to eliminate Focus' spending cap and should immediately allow Focus to begin spending down the $66 million in unspent funds.

In addition to these policy changes, as CUB mentioned at the outset of these comments, the Commission should consider requesting the legislature to eliminate the Focus spending cap and restore authority to the Commission to establish appropriate funding levels for the program. The recent independent evaluation of the Focus program by The Cadmus Group, Inc.,[15] and the Legislative Audit Bureau's Report issued December 7, 2011[16] show that the program is cost-effective for customers with benefits exceeding costs by a ratio greater than 2 to 1. Increased funding, closely monitored by the Commission, would put Focus in a far better position to assist in meeting federal carbon standards using its existing strong base for developing energy efficiency and renewable energy markets that meet long-term savings objectives.

The cost effectiveness of Focus and the need to prepare the program to meet impending federal carbon regulations also intensify the need for the Commission to allow Focus to spend

[15] *See* 2012 Focus Evaluation Report.
[16] Legislative Audit Bureau, An Evaluation: Focus on Energy (December 2011), available at legis.wisconsin.gov/lab/reports/11-13full.pdf.

the approximately $66 million in unspent funds that was addressed by the Commission in Docket No. 9501-FE-116.[17] Ratepayers in the current quadrennium (2011-2014) have already paid those funds to Focus. The Focus on Energy 2012 evaluation report calculated that the program collectively returned $2.89 for every dollar invested.[18] Thus, the impact of leaving $66 million un-invested is to withhold nearly $191 million in benefits (or $125 million in net benefits) from the ratepayers who paid those funds. Moreover, the longer the delay in expenditure of those funds, the greater the impact on intergenerational equity in that those who contributed the funds may not be present to receive the benefits.

Wis. Stat. § 196.374(5m)(a) requires the Commission to ensure that, "on an annual basis, each customer class of an energy utility has the opportunity to receive grants and benefits under energy efficiency programs in an amount equal to the amount that is recovered from the customer class." That opportunity has already been lost to customers for the 2013 calendar year. The Commission should not continue to delay use of those funds, particularly when Focus has established, popular, cost-effective programs like the Small Business program, that could immediately put those funds (or at least a portion of them) to beneficial ratepayer use. The rationale in the Unspent Funds Order for withholding expenditure of the funds was to ensure that the funds were spent "thoughtfully."[19] CUB agrees that the funds should be spent with care on cost-effective energy efficiency programs, but the Commission should not allow the "perfect" to become the enemy of the "good." Residential and small business customers have paid a substantial portion of those unspent funds (over 50%) and they should be immediately provided the opportunity to receive grants and benefits from them, as the statute requires. Thus, the

[17] Order, Request for Approval of Contract for Services Between Statewide Energy Efficiency and Renewables Administration (SEERA) and Chicago Bridge and Iron (CB&I), Docket No. 9501-FE-116 (Wis. PSC February 6, 2014) (PSC REF#: 198182) (Unspent Funds Order).
[18] 2012 Focus Evaluation Report, Volume I, at iii.
[19] Unspent Funds Order, at 5-6.

Commission should allow Focus to immediately begin spending down those funds. Specifically, CUB recommends that Focus be allowed to spend the amount of unspent funds it reasonably believes can be cost-effectively spent on the Small Business program in the year 2014 with the remainder of the unspent funds, minus a small amount to be held in reserve, to be spent over the next two years.

The Unspent Funds Order discusses the possibility of using some of the unspent funds to establish a "reserve fund" for Focus.[20] Specifically, it appears that a cash reserve equal to 30 percent of the prior year's actual revenue is projected to be maintained. CUB and its consultants are not aware of any other jurisdiction that retains a reserve fund at such a high level, and in fact are not aware of any other jurisdictions with statewide programs that maintain a specified amount of money in a "reserve fund." CUB also questions the purpose of such a fund. What is the intent of a Focus reserve fund? Under what circumstances will the reserve funds be used? How does a reserve fund fit with a program that has quadrennial goals? Is the amount set on an annual basis? If a reserve fund is set as a percentage, should it be a percentage of entire program revenue or just a percentage of program expenditures? Should a reserve fund be set on average monthly billings and be set at a number of months (e.g., two months) rather than a percentage total? When the reserve funds are expended, how will they be replenished and how often?
In the absence of answers to these questions, CUB's consultants reviewed Focus' current rate of spending and determined that if some amount of the unspent funds is to be retained in a reserve fund, a reasonable amount for the fund would be $5 million. That is significantly less than the approximately $35 million contemplated in the Unspent Funds Order. The Commission should not set a reserve fund at such a significant level without input from interested stakeholders. Thus,

[20] *See*, *e.g.*, Unspent Funds Order, at Commissioner Nowak Concurrence, Note 2.

the Commission should immediately allow Focus to begin spending down the unspent funds and, if it sets a reserve fund, to set it at no more than $5 million.

4. How should carbon attributes of energy efficiency savings be assigned or obtained?

CUB recommends that carbon attributes continue to be assigned to energy efficiency savings in the same fashion as under current practice for cost-effectiveness screening of Focus programs and portfolios. Under current practice, savings in any hour are assumed to avoid emissions at the emissions rate for the marginal generating plants in that hour in the MISO energy market.[21] Thus, current practice assigns carbon reductions to Focus savings in any hour based on the emissions rate for the plants that would most likely not be dispatched in that hour as a result of a reduction in load.

B. Goals and Priorities.

1. Examine the appropriateness of the establishment of an overall energy goal rather than specific goals for kilowatt-hours and therms [Scoping Order Issue 1.a.].

If the sole objective that Focus was created to achieve was to capture the lowest-cost *short-term* savings, then an overall energy goal would allow the Program Administrator to shift funding between programs, regardless of fuel, in order to capture the lowest-cost savings. However, that approach ignores the many competing policy priorities that have been outlined in Wisconsin law and in prior Commission orders. Allowing the Program Administrator the unfettered flexibility to unilaterally decide to focus heavily on savings opportunities for just one fuel would, in effect, create an opportunity to completely neglect the development of market infrastructure and consumer awareness for important segments of the energy economy. That

[21] *See*, *e.g.*, PA Consulting Group, "Focus on Energy Evaluation: Benefit-cost Analysis CY09 Evaluation Report," (November 24, 2009), Appendix D, available at: http://www.focusonenergy.com/sites/default/files/bcanalysiscy09_evaluationreport.pdf.

could make it much harder and more expensive to build that infrastructure and awareness in the future when energy prices and the relative cost-effectiveness of savings from different fuels might be different. Depending on the shape that carbon regulation takes, that could also disadvantage Wisconsin's ability to comply with regulations in the future.

Further, important equity questions would need to be addressed if the Program Administrator had extensive leeway to shift funds between fuels. For some customers, the most important savings opportunities are electric; for others the most important opportunities might be gas. A program portfolio that largely ignores one or the other of these opportunities – in the interest of maximizing total savings per dollar spent – will necessarily limit the ability of some customers to participate.

Even if a measure is not the most cost-effective under the modified TRC or other cost-effectiveness test, it may still add value and be worth pursuing for longer-term benefits. For example, even if Focus has to offer a premium to encourage natural gas customers to participate, the long-term benefits of keeping those customers engaged, and in continuing to develop natural gas efficiency markets may well justify paying that premium, even though it means that the short-term savings are more costly.

Regardless of whether savings goals are stated generically in Btus or specifically in therms and kWh, the full range of policy objectives should be addressed in the process of establishing overall savings goals. For example, Consumers Energy (Consumers) in Michigan has a performance incentive designed to assure sector equity by rewarding the utility for meeting target savings for low-income programs. Consumers can also earn incentives for increasing the depth of savings for multi-family participants as demonstrated by a year-over-year increase in the number of customers who install three or more measures. There is also an incentive for

increasing the number of commercial and industrial customers who install measures in two or more measure categories.[22] Further, in a Settlement Agreement for Consumers 2014-2017 energy efficiency programs, there are demand and energy savings multipliers associated with market transformation measures and with longer-lived measures to increase their effect on Consumers' performance incentive earnings. These multipliers are applied to LED lighting, air-to-air heat pump water heaters, and mini-split heat pumps.[23] In addition to specific therm, kWh, kW, and "converted" kWh targets, metrics should be established that reflect the policy priorities of market development to foster Focus' ability to continue to capture energy efficiency and renewable energy savings for the long term.

Thus, CUB does not recommend the establishment of an overall savings goal. However, if the Commission determines it is appropriate to establish such a goal, CUB recommends that minimum savings levels for natural gas and electricity be established, and that only a small portion of the goal— on the order of 10 percent to 20 percent — should be at play for the Program Administrator to pursue either gas or electric savings.

2. Re-examine the balance between resource acquisition and market transformation [Scoping Order Issue 1.b.].

CUB believes that both resource acquisition and market transformation objectives are important to the sustained success of Focus and its continued ability to provide economic benefits to Wisconsin ratepayers. Moreover, Wis. Stat. § 196.374(3)(b)1. requires the Commission to give priority to programs that, *inter alia*, "facilitate markets and assist market providers to achieve higher levels of energy efficiency." Those priorities – to support markets

[22]These are outlined in the Order Approving Partial Settlement in Michigan Public Service Commission (MPSC) Case No. U-17138 (January 31, 2013), Table on p. 3, available at: http://efile.mpsc.state.mi.us/efile/docs/17138/0060.pdf.

[23]Order Approving Settlement Agreement, MPSC Case No. U-17351(December 19, 2013), Attachment C, available at: http://efile.mpsc.state.mi.us/efile/docs/17351/0028.pdf.

and market actors – are in effect market transformation priorities and should be reflected in Focus' performance metrics. Thus, to bolster the ability of Focus to meet both long-term and short-term objectives, CUB recommends that the Commission establish performance metrics that reflect specific market development and transformation goals.

Currently, the only metrics used to assess compliance with statutory directives under Wis. Stat. § 196.374 are net energy and demand lifecycle savings. While such metrics are certainly critical, they do not measure all aspects of an efficiency program portfolio that should be of interest to the Commission. Several other jurisdictions have adopted long-term market development or market transformation goals – in addition to shorter-term energy savings goals. For example, Efficiency Vermont reflects market transformation objectives in its metrics,[24] and similar market transformation goals have been used in California, New Jersey, Massachusetts and other states.[25]

The current metrics for Focus have a relatively short-term focus because they align with the four-year contracts of the Program Administrator. For example, if it was possible to meet four-year savings targets at low cost through an extremely heavy emphasis on measures that may become standard practice or even obsolete within the next five or ten years (e.g., CFLs), the Program Administrator would have a strong incentive to at least move in that direction, potentially at the expense of building the foundation for acquiring substantial cost-effective

[24] *See* Efficiency Vermont's 2013 Annual Plan, p. 30, available at: http://www.efficiencyvermont.com/docs/about_efficiency_vermont/annual_plans/EVT-AnnualPlan2013.pdf.
[25] *See*, *e.g.*, California Public Utilities Commission Docket No. U 39 M, Pacific Gas and Electric Company 2009-2011 Energy Efficiency Portfolio Amended Testimony (March 2, 2009), section D, pp. 1-13, available at: http://www.pge.com/includes/docs/pdfs/about/rates/rebateprogrameval/portfolioapplication/energyefficiency2009-2011-portfolio_test_pge_20090302-01.pdf; New Jersey's Clean Energy Program: Honeywell's Residential Energy Efficiency and Renewable Energy Program Plan Filing for 2011 (March 23, 2011), at 6, available at: http://www.njcleanenergy.com/files/file/Library/HW%20revised%202011%20EE%20RE%20Program%20Plan%20FINAL%203-23-11.pdf; 2013-2015 Massachusetts Joint Statewide Three-Year Electric and Gas Energy Efficiency Plan (November 2, 2012), pp. 39-50.

energy savings in the future. Thus, specific market development and market transformation goals are needed to counteract this incentive.

There is evidence to support this need for new goals in Docket No. 9501-FE-116. In Commissioner Nowak's concurrence arguing against providing additional funds to the Program Administrator to maintain the level of activity in the Small Business program, she points out that the Program Administrator has the discretion to "use funds in the most effective way to meet its goals."[26] Clearly, the absence of goals that direct the Program Administrator to serve markets equitably and to avoid market disruption is exactly why the Program Administrator would choose to defund the Small Business program in favor of other activities that more aggressively help it meet its annual kWh targets. Program goals that prioritize short-term savings targets to the detriment of building a reliable presence in efficiency markets that supports long-term growth will, as demonstrated here, lead to market disruption and dissatisfied customers, which will harm the programs' long-term success as well as their ability to most cost-effectively comply with future carbon emission regulations.

Put simply, goals drive decision-making. As such, they need to reflect all relevant policy objectives. If they do not, the policy objectives that are not addressed will be given less consideration than they deserve. Thus, CUB believes it would be appropriate for the Commission to complement the critically important energy savings goals with goals that measure progress towards longer-term market transformation objectives, particularly around the development of markets for efficiency measures that are likely to be important in the future.

3. Re-examine the emphasis between energy and demand [Scoping Order Issue 1.c.].

Please see the discussion above in section II.A.2.

[26] Unspent Funds Order, Commissioner Nowak Concurrence, at 3.

4. Revisit the relative emphasis of business and residential programs [Scoping Order Issue 1.d.]

Past Commission direction states that, "Goals and targets should be allocated between the residential and business programs according to the measured potential in each." [27] In practice, this directive has resulted in recent funding allocations of roughly 52 percent to small and medium business customers, 40 percent to residential customers, and 8 percent to large commercial and industrial customers. If the Commission retained authority to determine optimal funding levels for the Focus portfolio such that all cost-effective energy efficiency could be pursued, this allocation of funds might be appropriate. However, CUB is concerned that in a constrained budget environment there will be increasing pressure to further shift this balance by pursuing lower-cost business savings rather than residential savings that might be more costly on a cost per energy saved basis. This would be a mistake for several reasons:

1. It could lead to a scenario where residential ratepayers were subsidizing savings for business customers to an unacceptable degree, diminishing the ability of residential ratepayers to participate in Focus programs and to receive the direct benefits that could otherwise be available to them in terms of incentives, technical assistance, and knowledge.

2. It could lead to neglect and weakening of residential efficiency markets, hurting Wisconsin's ability to capture savings in this sector well into the future, and harming its ability to use efficiency to its fullest capability to meet federal carbon regulations.

3. If residential budgets were further reduced, it could lead either to underserving Wisconsin's most-vulnerable limited-income populations, or, if services for those populations were maintained, it could further erode services for other residential customers.

The Commission should address these concerns by clarifying its definitions and expectations. In order to assure sector equity in light of challenging savings targets and constrained budgets, "measured potential" must be understood to include all cost-effective

[27] Order, Quadrennial Planning Process, Docket No. 5-GF-191 (Wis. PSC November 10, 2010), at 12 (PSC REF#: 141173).

energy efficiency potential. If, for example, "measured potential" were to be interpreted as the potential for energy savings that could be obtained *below a certain cost threshold,* the program administrator might develop spending targets that are unreasonably skewed toward the non-residential sector.

The Commission should also apply a secondary criterion that limits the extent to which one sector can subsidize efficiency in another, meaning that if the residential ratepayers contribute 40 percent of the Focus funds, then investment in residential programs should be within close proximity to 40 percent of the budget. These steps would assure that even where more costly than business savings, residential efficiency programs would not be passed over so long as they are cost-effective, resulting in the continued development of all markets that can contribute to meeting carbon regulations. This parity is especially important in light of the statutory requirement that each customer class must have an opportunity to receive grants and benefits under the Focus program in an amount equal to the amount that is recovered from that class.[28]

5. Examine the issue of Focus receiving credit for code changes [Scoping Order Issue 1.e.].

CUB supports exploration of methods for crediting Focus with savings associated with its involvement in the development and adoption of energy codes. Further, CUB recommends that supportive activities that Focus could undertake to increase awareness of and compliance with energy codes should also be explored. Other states have adopted approaches that encourage program administrator involvement with energy codes, primarily because codes represent a very

[28] Wis. Stat. § 196.374(5m)(a).

low cost means of increasing energy efficiency.[29] Without such encouragement, program administrators may be faced with a significant disincentive to support increasing codes, because as codes increase, the incremental savings that are available above code requirements become too small to support cost-effective approaches to capturing them, and program administrators no longer are able to capture savings in new construction markets.

6. Examine whether pilots for behavioral programs should be part of the next quadrennial period [Scoping Order Issue 1.f.].

Behavioral energy efficiency programs— those programs that capture energy efficiency savings without attributing the savings to specific measures— have become increasingly common over the past several years for two primary reasons. The first is that in jurisdictions with increasing savings goals, behavioral programs have provided a relatively quick way to ramp up to meet those goals as the availability of low-cost CFL savings has diminished due to standards associated with the Energy Independence and Security Act of 2007 and market saturation. The second is that most jurisdictions measure success in terms of annual rather than lifecycle savings, and the cost of behavior savings is very competitive on an annual-savings basis.

In Wisconsin, however, neither of these reasons is currently relevant. As long as the spending cap remains in place there is little doubt that there will be abundant cost-effective savings opportunities without launching behavior programs. More important though is Wisconsin's adoption of lifecycle savings as the most relevant measure of program performance. On a lifecycle basis, behavioral programs do not measure up nearly as well, because they typically only have a one-year measure life. In order for the savings to persist beyond one year,

[29] *See*, *e.g.*, The Cadmus Group, Inc. et al., "Attributing Building Energy Code Savings to Energy Efficiency Programs" (February 2013), at p. 30, Table 1, available at: http://www.imt.org/uploads/resources/files/NEEP_IMT_IEE_Codes_Attribution_FINAL_Report_02_16_2013.pdf.

the program administrator needs to continue to pay for the program over and over again, and this gets expensive over time.

For these reasons, CUB does not see any benefit in allowing or directing Focus to implement a behavioral energy efficiency program at this time unless it can be demonstrated to be effective in helping to drive significant increased participation in other longer-lived measures and programs. Unless this can be demonstrated, CUB urges the Commission to reject any such proposals.

C. Cost-effectiveness of Programs.

1. Revisit the cost-effectiveness tests used by Focus [Scoping Order Issue 2.a.]

As part of its analysis for the comments in this proceeding, CUB examined the five traditional cost-effectiveness tests used throughout the country to measure the cost-effectiveness of energy efficiency programs. The five tests are: (1) the Total Resource Cost Test (TRC); (2) the Utility Cost or Program Administrator Test (UCT); (3) the Participant Test; (4) the Societal Cost Test; and (5) the Rate Impact Measure Test (RIM). Focus currently uses a modified version of the TRC to test the cost-effectiveness of programs and portfolios, and uses the UCT to inform program design.

According to the American Council for an Energy-Efficient Economy (ACEEE), 44 states have ratepayer-funded energy efficiency programs and, in response to a survey, all 44 indicated that they use at least one of the five benefit-cost tests listed above.[30] Of those 44 states, 40 have a "primary" cost-benefit test that they use. The breakdown of the types of tests used is listed in Table 1 below.

[30] ACEEE, Martin Kushler, Ph.D., Presentation to a NASUCA Webinar, "A Brief Review of Benefit-Cost Testimony for Energy Efficiency Programs: Current Status and Some Key Issues," February 24, 2014 and phone conversation between Kira Loehr and Martin Kushler on March 13, 2014.

Table 1: Current Practice in the States Regarding Benefit-Cost Tests

	Tests Used	Percentage	Primary Test	Percentage
TRC	36	84%	29	73%
UCT	28	65%	5	13%
PCT	23	53%	0	0%
SCT	17	40%	6	15%
RIM	22	51%	0	0%

There are pros and cons to each of the five tests that will not be discussed in detail here. CUB's consultants reviewed the Focus program's history of using the modified TRC and compared and contrasted that to the benefits of switching to one or more of the other tests and determined that it is reasonable and appropriate to continue using the modified TRC, in conjunction with the UCT on a program basis.

As part of this analysis, CUB specifically examined the Industrial Customer Groups' (ICG) recommendation in their August 2, 2013 comments in this proceeding that the Commission adopt the RIM test as the primary test for determining the cost-effectiveness of Focus measures, programs, and portfolios. [31] According to ICG, if a Focus program fails the RIM test, then "costs are higher than benefits and all customers including non- participating customers are not benefitting from the program portfolio."[32]

The Commission should reject the ICG proposal to adopt the RIM test as the primary cost-effectiveness test. The ICG characterization of the RIM test is flawed in two critical respects. First, the claim that "costs are higher than benefits" when the RIM benefit-cost ratio is

[31] *See* Docket No. 5-FE-100, Comments of the Industrial Customer Groups to Commission's Notice of Investigation Regarding Quadrennial Planning Process II (August 2, 2013), at 3 (PSC REF#: 188340).
[32] *Id*.

less than one is incorrect. The RIM overstates the true economic cost associated with Focus programs by including revenue losses from program participants' energy savings as a "cost," when in fact such revenue losses are simply a transfer of revenue recovery from participants to non-participants.[33] Likewise, the RIM test understates the economic benefits associated with participants' energy savings by failing to account for non-electric (i.e., gas and water) benefits to participants or for benefits that accrue to participants and non-participants alike (e.g., employment benefits). In other words, the RIM test is not an appropriate cost-effectiveness test, since it does not measure economic efficiency.

Second, in the case where a program portfolio fails the RIM test, ICG misinterprets the result when it asserts that "all customers … are not benefitting from the program portfolio." In fact, so long as that portfolio is cost-effective under the TRC and UCT, costs recovered from all ratepayers in the aggregate will be lower with than without the program portfolio. In this case, a failure under the RIM simply signifies that, over the lifetime of the portfolio savings, revenues recovered from participants as a whole will decrease (i.e., average participant bills will decrease), while revenues recovered from non-participants will increase (i.e., average non-participant bills will increase).[34] However, the RIM test does not provide any indication as to the extent to which the economic benefits from Focus programs are distributed among ratepayers. In other words, a cost-effective program that failed the RIM with 0.1% program participation would also fail with 99.9% participation. Thus, the RIM test will not provide any indication as to

[33] *See*, Paul Chernick and Jonathan Wallach, "The Transfer Loss is All Transfer, No Loss", *The Electricity Journal*, Vol. 6, No. 6, July 1993. Only a portion of the net revenue loss (i.e., revenue loss net of avoided cost) will be transferred to non-participants, since the revenue loss, all else equal, will increase rates for both participants and non-participants.

[34] Although the decrease in participants' revenues will exceed the increase in non-participants' revenues, total revenue requirements over all customers will be lower with cost-effective Focus savings.

whether Focus program costs and benefits are distributed equitably between participants and non-participants.

Given these flaws, regulatory commissions across the country have widely rejected the RIM as a measure of energy efficiency cost-effectiveness, and no state currently uses the RIM as the primary test.[35] The Commission should do likewise and reject ICG's proposal. Instead, as discussed in further detail below, the Commission should continue to rely on the modified TRC test as the primary test of Focus cost-effectiveness and then consider on a portfolio basis whether cost-effective programs raise equity concerns and, if so, what portfolio strategies might mitigate such concerns.

2. Include avoided costs as an issue in the Quadrennial Planning Process II Scope.

a. Include forecasting of natural gas avoided costs [Scoping Order Issue 2.b.i.].

As discussed in the November 22, 2013 memorandum from the Gas and Energy Division, the avoided natural gas costs used to value Focus gas savings are currently derived from present-day market prices for commodity and transportation.[36] In contrast, avoided electric energy costs are based on long-term forecasts of locational marginal prices (LMP).

As the Commission found with respect to avoided electric energy costs in its January 13, 2012 order in Docket No. 5-GF-191 (PSC REF#: 158228), short-term volatility in market prices for gas can lead to inconsistent program designs and budgets from year to year. Moreover, given current expectations regarding long-term price trends, relying on prevailing market prices to

[35] ACEEE, Martin Kushler, Ph.D., Presentation to a NASUCA Webinar, "A Brief Review of Benefit-Cost Testimony for Energy Efficiency Programs: Current Status and Some Key Issues," February 24, 2014.
[36] Docket No. 5-FE-100, Commission Staff Memo re: Quadrennial Planning Process II – Scope (November 22, 2013), at 13 (PSC REF#: 194828).

value gas savings is likely to understate lifecycle benefits and hinder achievement of lifecycle goals.[37]

CUB therefore recommends that the Commission revise the current methodology to allow for the derivation of avoided gas costs based on long-term forecasts of delivered gas prices. Consistent with practices in other jurisdictions, such forecasts should be derived based on a combination of: (1) prevailing market prices for exchange-traded forward contracts for gas commodity and basis; and (2) long-term forecasts of commodity and transportation costs.[38]

b. Examine the value of on-peak versus off-peak energy savings and whether the difference should be reflected in Focus incentives [Scoping Order Issue 2.b.ii.].

CUB recommends that avoided energy costs be specified separately for on-peak and off-peak periods in order to properly reflect the differential value of on- and off-peak savings in cost-effectiveness screening of measures, programs, and portfolios. With avoided energy costs stated separately for on- and off-peak periods, an efficiency measure that has a higher proportion of on-peak to off-peak savings will, all else equal, yield greater net benefits than a measure that has a lower proportion. To the extent that incentives for measures are set with reference to net benefits of measures, the differential value of on- and off-peak savings will be reflected in Focus incentives.

c. Other changes to the avoided-cost methodology to properly value Focus savings.

In addition to the recommended changes to avoided costs discussed above, the Commission should consider two other modifications in order to capture the full value of Focus savings. First, the Commission should revisit its decision to exclude capitalized energy costs

[37] *See* Request, at 4 in which the Commission noted with respect to the issue of overall energy goals "the difficulty in achieving therm savings with the current low natural gas prices."
[38] *See*, *e.g.*, Synapse Energy Economics, Avoided Energy Supply Costs in New England: 2013 Report (July 12, 2013), Chapter 2: Avoided Natural Gas Costs.

from avoided electric energy costs. In its June 20, 2012 order in Docket No. 5-GF-191, the Commission rejected the recommendation of the Evaluation Work Group (EWG) to include an amount for capitalized energy costs in avoided energy costs. While the Commission found the concept of avoided capitalized energy costs to be reasonable in theory, it also found that:

> Wisconsin currently has sufficient generating capacity such that avoided new capital costs are likely to be very low for the foreseeable future. As such, inclusion of the capitalized energy component would result in an overstatement of Focus savings.[39]

As the Commission noted in its Request, various utilities have indicated recently that they will be seeking capacity increases in the next five years.[40] Thus, it is no longer the case that capitalized energy costs will necessarily be low for the foreseeable future. Moreover, even without a need for new baseload or cycling capacity in the near future, Wisconsin utilities are likely to incur substantial energy-related capital costs for the purposes of complying with impending environmental regulations, including perhaps expenditures to improve plant efficiency in order to meet carbon standards. Such energy-related capital costs should be reflected in avoided energy costs.[41]

Second, the Commission should consider including in avoided electric costs a measure of the marginal transmission and distribution costs avoidable with investments in Focus savings. Load reductions from Focus programs can avoid the need for additions of T&D plant, and the associated fixed capital and O&M costs. In addition, Focus savings can help extend the life of existing T&D equipment by reducing the frequency and magnitude of overloads.

[39] Order, Quadrennial Planning Process, Docket No. 5-GF-191 (June 20, 2012), at 3 (PSC REF#: 166932).
[40] *See* Request, at 3.
[41] Moreover, to the extent that Wisconsin utilities are planning to retire coal plants and replace them with new gas combined-cycle plant, the energy-related portion of the capital investment in these new gas plants should be reflected in avoided energy costs.

Methods for estimating marginal or avoidable T&D costs are well-established.[42] In fact, the Wisconsin utilities routinely estimate marginal T&D costs as part of their base rate filings. As is common practice in a number of jurisdictions around the country, the Wisconsin utilities' estimates of marginal demand-related T&D costs should be included in the avoided electric costs used for cost-effectiveness screening of Focus measures, programs, and portfolios.[43]

3. Re-examine the current discount rate [Scoping Order Issue 2.c.].

In the first Quadrennial Planning Process, the Commission determined that a 2 percent real discount rate "provides the appropriate balance between the short- and long-term societal benefits provided by energy efficiency programs."[44] The Commission's use of a societal discount rate in cost-effectiveness screening is appropriate and supported by economic theory. According to the U.S. Office of Management and Budget (OMB):

> When regulation primarily and directly affects private consumption (e.g., through higher consumer prices for goods and services), a lower discount rate is appropriate. The alternative most often used is sometimes called the "social rate of time preference." This simply means the rate at which "society" discounts future consumption flows to their present value. If we take the rate that the average saver uses to discount future consumption as our measure of the social rate of time preference, then the real rate of return on long-term government debt may provide a fair approximation. Over the last thirty years, this rate has averaged around 3 percent in real terms on a pre-tax basis. For example, the yield on 10-year Treasury notes has averaged 8.1 percent since 1973 while the average annual rate of change in the CPI over this period has been 5.0 percent, implying a real 10-year rate of 3.1 percent.[45]

[42] For example, see NARUC, *Electric Utility Cost Allocation Manual* (January 1992), pp. 127-146. Also, see Paul Chernick, *Quantifying the Benefits of Demand Management*, Volume 5 of *From Here to Efficiency: Securing Demand-Management Resources*, prepared for the Pennsylvania Energy Office (January 1993), pp. 58-83.
[43] Utilities in a number of states include avoided T&D costs in cost-effectiveness screening of energy efficiency, including: California, Connecticut, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, and Vermont.
[44] *See* Docket No. 5-GF-191, Commission Staff Memo Re: Quadrennial Planning Process, Phase Two – Evaluation Issues (August 2, 2010), p. 8 (PSC REF#: 137513).
[45] OMB, Circular A-4, Regulatory Analysis (September 17, 2003), pp. 33-34.

In a February 27, 2012 order, the Vermont Public Service Board similarly found that it is appropriate to use a societal discount rate for cost-effectiveness screening of energy efficiency:

> The [Vermont Department of Public Service (DPS)] contended that for an individual or a company, future preference for investment is identified directly with that individual or company's cost of capital. But, for society as a whole, the discount rate is often lower because an individual or company's investment decisions have impacts on others (such as the effects of a company's increased spending or savings on a company's customers or other local businesses). Therefore, according to the DPS, society has less of a time preference for the return on an investment than a company might; this reduced time preference manifests itself as a lower discount rate. As a result, the DPS asserted that a societal discount rate, rather than a rate based on the utility weighted-average cost of capital, should be used in energy efficiency cost-effectiveness screening.
>
> The DPS has made compelling arguments regarding changing the methodology historically used to determine an appropriate discount rate for energy efficiency cost-effectiveness screening. We determine that it is more appropriate to use a societal discount rate.[46]

OMB supports use of a 3 percent real discount rate based on the real interest rates for 10-year Treasury notes over the last forty years. However, more recent interest rates on 10-year notes and 30-year bonds indicate that a real discount rate of 1 percent to 2 percent would be appropriate. Continued use of a 2 percent real discount rate for cost-effectiveness screening of Focus programs therefore appears reasonable.

In its August 2, 2013 comments in the instant proceeding, ICG recommended that the discount rate be increased to at least the utilities' weighted cost of capital, since "discount rates implicit in implementing energy efficiency initiatives by industrial customers are typically much

[46] *See* Vermont Public Service Board, Order re: Cost-Effectiveness Screening of Heating and Process-Fuel Efficiency Measures and Modifications to State Cost-Effectiveness Screening Tool (February 7, 2012), pp. 20-21.

higher [than the current 2 percent real rate] as demonstrated by the shorter payback requirements."[47]

The Commission should reject ICG's proposal, since it would inappropriately substitute industrial customers' implicit discount rate for the social discount rate. Industrial customers' high implicit discount rates reflect their unique budget constraints, their narrow consideration of only benefits that accrue directly to their firm, their tolerance for risk, and their particular time values of money. In contrast, the social discount rate reflects a different perspective on resource allocation, a broader consideration of benefits, less risk aversion, and a higher valuation of long-term benefits.

4. Re-examine the current levelized value of carbon [Scoping Order Issue 2.d.].

CUB recommends that the Commission continue to use a levelized carbon value of $30/ton for the purposes of cost-effectiveness screening of energy efficiency programs. According to data reported in a recent study by Synapse Energy Economics, the current levelized value of carbon falls within a reasonable range of values used in other jurisdictions and is consistent with Synapse's current mid-case forecast of carbon prices.[48] Thus, the current value appears to be reasonably consistent with consensus expectations regarding the likely value of carbon reductions.

In its August 2, 2013 comments in this proceeding, ICG notes that "there are no existing state or federal level laws regarding carbon monetization."[49] Consequently, ICG recommends

[47] *See* Docket No. 5-FE-100, Comments of the Industrial Customer Groups to Commission's Notice of Investigation Regarding Quadrennial Planning Process II (August 2, 2013), at 4 (PSC REF#: 188340).
[48] Synapse Energy Economics, "2013 Carbon Dioxide Price Forecast," (November 1, 2013), at 3, available at: http://www.synapse-energy.com/Newsletter/2013-11-07-Newsletter.htm.
[49] *See* Docket No. 5-FE-100, Comments of the Industrial Customer Groups to Commission's Notice of Investigation Regarding Quadrennial Planning Process II (August 2, 2013), at 5 (PSC REF#: 188340).

that the carbon value be set to zero or, in the alternative, "that a phase-in approach be used wherein a price of carbon is used further in the future instead of the present time."[50]

Neither of these recommendations is reasonable. Although carbon standards for existing plant have not yet been promulgated, it is reasonable to assume that some form of carbon limits will be implemented over the planning horizon for cost-effectiveness screening. Thus, assuming a zero value as proposed by ICG would materially understate the expected value of carbon reductions from Focus savings once carbon standards are imposed by regulation. Furthermore, even if carbon limits are not in force until 2020, as is currently expected, it is reasonable to assume that carbon regulations will allow for "banking" of emissions reductions achieved prior to 2020 for the purposes of complying with standards anticipated for 2020 and beyond. Consequently, it is reasonable to value Focus savings achieved during the next Quadrennial Planning Period at the current value of $30/ton, since savings that yield reductions in carbon emissions prior to 2020 would contribute to meeting compliance requirements in 2020 and beyond.

5. Re-examine the current approach to determining measure lifetime, degradation, and persistence of savings [Scoping Order Issue 2.e.].

The methodology used to estimate the lifecycle savings that Focus can claim for installed measures is important in this policy environment where lifecycle savings are appropriately weighted more heavily than annual or first year savings. CUB agrees that the responsibility for assessing the appropriateness of the current methodology and making any recommendations for changes primarily rests with the EWG, though CUB believes that stakeholders should have the opportunity to comment on any recommendations that the EWG may ultimately decide are warranted. In the meantime, CUB believes that any relevant program impact evaluations that are

[50] *Id.*

carried out should assess lifetime, degradation, and persistence of any measures that compose a significant amount of the total program savings.

D. Energy-Water Nexus [Scoping Order Issue 4.a.].

Given the current constrained Focus budget environment, it is CUB's position that any activities described as part of the energy-water nexus be evaluated for inclusion in Focus programming solely on the basis of their ability to cost-effectively contribute to meeting Focus' energy savings goals. In other words, if a measure or program is attractive in terms of its cost of energy savings, if it meets other policy objectives, and if budget is available then it should be included in the portfolio. For example, there may be significant energy savings opportunities from addressing pump and leak issues in water distribution systems, and by all means these should be treated as potential projects by Focus. The same is true for wastewater treatment improvements that reduce energy use. If these measures also provide water savings, that is even better, but these water benefits should not be part of the assessment of whether or not to include them in the Focus portfolio.

In addition, while supportive of capturing and reporting the energy savings benefits of reduced water usage where those numbers hold up to scrutiny, CUB believes that there are already ample energy savings opportunities that cannot be pursued due to budget constraints without introducing the complicating factor of energy savings due to reduced water use. The possible exception is measures that support both water and energy conservation goals where co-funding from a water district is available to offset some portion of the costs.

E. Effective Rate Impact Mitigation Strategies that Could Be Achieved in the Planning Period [Scoping Order Issue 5.a.].

1. How does the cost of cost-effective energy efficiency compare to the cost of other carbon mitigation strategies? Should this difference be

considered in determining whether to implement rate mitigation strategies?

As discussed in section II.A.1. above, whether more or less expensive than other carbon mitigation strategies on the basis of *direct* costs, energy efficiency investments are likely to be cheaper than other options on the basis of *net* costs. In other words, unlike other carbon reduction compliance options, a reduction in consumption from investment in energy efficiency would likely reduce not only carbon emissions, but also system production costs, compliance costs for criteria pollutants, costs for new generation capacity, and investment costs for new transmission and distribution capacity.

This net-cost advantage should be a key consideration in the Commission's deliberations regarding possible rate impacts from energy efficiency spending. The issue of rate impacts fundamentally entails trade-offs between long-term economic efficiency and short-term equity. Over the long term, total costs for all customers should be lower under a carbon mitigation strategy that relies on cost-effective energy efficiency than under a strategy that employs measures with higher net costs. However, in the short term, investments in cost-effective energy efficiency programs would likely lower bills for program participants, but might increase bills for non-participants. The magnitude of the annual bill increase for non-participants would depend on the extent to which lost revenues from energy efficiency savings translate into a base-rate increase in the subsequent test year.

When considering whether to implement rate mitigation strategies, the Commission should carefully consider the extent to which long-term economic benefits might be sacrificed in the pursuit of short-term rate relief. For example, with annual Focus spending capped at 1.2 percent of revenues, there is a risk that utilities would need to turn to more expensive carbon mitigation measures to comply with federal carbon limits if the acquisition of cost-effective

energy efficiency savings were delayed in order to mitigate rate impacts. In this case, the benefit of short-term rate relief to non-participants would come at too high an economic cost to all ratepayers.

2. What rate mitigation strategies do you see as being effective?

The need for, and effectiveness of, any particular rate mitigation strategy will depend on a number of factors, including: (1) the nature of the problem (e.g., inter- vs. intra-class equity); (2) the magnitude of the problem; (3) the specific structures of utility rates; and (4) the specific designs of the programs in the Focus portfolio. Rather than recommend specific strategies, CUB instead offers the following general guidelines for the Commission's consideration:

- Equity should be measured at the portfolio level. Adverse impacts on non-participants from one Focus program would be of little concern if they were sufficiently mitigated as a result of those non-participants' participation in another Focus program.
- Rate and bill impacts from Focus spending should be evaluated in relation to expected rates and bills without such spending. The annual rate increase from Focus spending may appear sharp when viewed in isolation, but moderate when compared to the annual increase from spending on supply resources in lieu of Focus spending.
- The severity of the rate and bill impacts from Focus spending should be judged in relation to other changes to base rates. For example, a potentially large rate impact from Focus spending may be tolerable, if substantially offset by other changes in test-year costs, billing determinants, cost of capital, or rate designs. On the other hand, even a minimal rate impact may be too severe if rates are otherwise increasing substantially.
- The Commission should analyze rate and bill impacts on a utility-by-utility basis, in order to properly reflect the impact from utility-specific Focus savings on each utility's costs and revenues. Rate impacts should be determined by customer or rate class, not just on average for all utility customers.
- Amortization is not necessarily an effective rate mitigation strategy as it will result in steady increases over time. For example, amortization of 2015 Focus expenditures would reduce 2015 rates compared to rates with expensing of expenditures. However, the rate increase from 2015 to 2016 will be greater with the combined amortization of 2015 and

2016 Focus expenditures than with expensing of Focus expenditures in both 2015 and 2016 (assuming level spending at 1.2 percent of revenues).

- The Commission should prioritize rate mitigation strategies that broaden program participation and increase energy savings per dollar spent over strategies that reduce overall spending on cost-effective programs. The former approach seeks to improve opportunities for all customers to reduce their bills (even though rates have increased) and to maximize net economic benefits over the long term.
- Increasing fixed customer charges in order to reduce revenue losses from Focus savings is not a reasonable strategy for mitigating rate impacts. Shifting cost recovery from volumetric energy rates to fixed customers charges would inappropriately dampen price signals to consumers for reducing energy usage, and exacerbate the subsidization of higher-use customers' costs by lower-usage customers.

F. Renewable Energy [Scoping Order Issue 3].

At this time, CUB has two comments regarding the goals and funding for Renewable Resource Programs. First, however the total funding amount for renewable programs are determined, the Commission should remove the conditional limit on Group 2 spending. Instead, as CUB has proposed in the past, the Commission should either set the allocation of total funds between Group 1 and Group 2 at fixed percentages or eliminate the distinction between the two groups and allow funding to flow based on market demand.

Second, to the extent that goals and funding levels are pegged to the cost-effectiveness of renewable programs, the Commission should recognize that the modified TRC test, as currently formulated, significantly undervalues renewable program cost-effectiveness by failing to account for either avoided capitalized energy or avoided T&D costs.

III. CONCLUSION.

CUB appreciates the Commission's consideration of these comments, and offers the following summary of its recommendations regarding the issues identified in the Scoping Order:

1. Goals and Priorities.

a. Examine the appropriateness of the establishment of an overall energy goal rather than specific goals for kilowatt-hours and therms.

CUB does not recommend the establishment of an overall energy savings goal. However, if the Commission determines it is appropriate to establish such a goal, CUB recommends that minimum savings levels for natural gas and electricity be established, and that only a small portion of the goal— on the order of 10 percent to 20 percent — should be at play for the Program Administrator to pursue either gas or electric savings.

b. Re-examine the balance between resource acquisition and market transformation.

The Commission should establish performance metrics that reflect specific market development and transformation goals.

c. Re-examine the emphasis between energy and demand.

Focus should continue to prioritize energy savings over demand savings to use Focus' currently limited funds to better assist the state in complying with federal carbon standards.

d. Revisit the relative emphasis of business and residential programs.

The Commission should retain the policy directive that, "Goals and targets should be allocated between the residential and business programs according to the measured potential in each," and clarify that "measured potential" means all cost-effective energy efficiency potential.

The Commission should also apply a secondary criterion that limits the extent to which one sector can subsidize efficiency in another, meaning that if the residential ratepayers contribute 40 percent of the Focus funds, then investment in residential programs should be within close proximity to 40 percent of the budget.

e. Examine the issue of Focus receiving credit for code changes.

CUB supports exploration of methods for crediting Focus with savings associated with its involvement in the development and adoption of energy codes, and recommends exploration of supportive activities that Focus could undertake to increase awareness of and compliance with energy codes.

f. Examine whether pilots for behavioral programs should be part of the next quadrennial period.

CUB does not see any benefit in allowing or directing Focus to implement a behavioral energy efficiency program at this time unless it can be demonstrated to be effective in helping to drive significant increased participation in other longer-lived measures and programs.

2. Cost-effectiveness of Programs.

a. Revisit the cost-effectiveness tests used by Focus.

Focus should continue to use a modified version of the TRC to test the cost-effectiveness of the programs on a portfolio basis, and use the UCT to inform program design.

b. Include avoided costs as an issue in the Quadrennial Planning II process scope.

i. Include forecasting of natural gas avoided costs.

The Commission should revise the current methodology to allow for the derivation of avoided gas costs based on long-term forecasts of delivered gas prices. Consistent with practices in other jurisdictions, such forecasts should be derived based on a combination of: (1) prevailing market prices for exchange-traded gas forward contracts; and (2) long-term forecasts of commodity and transportation costs.

ii. Examine the value of on-peak versus off-peak energy savings and whether the difference should be reflected in Focus incentives.

CUB recommends that avoided energy costs be specified separately for on-peak and off-peak periods in order to properly reflect the differential value of on- and off-peak savings in cost-effectiveness screening of measures, programs, and portfolios.

c. Re-examine the current discount rate.

The Commission should continue to use a two percent discount rate.

d. Re-examine the current levelized value of carbon.

The Commission should continue to use a levelized value of carbon of $30/ton.

e. Re-examine the current approach to determining measure lifetime, degradation, and persistence of savings.

The responsibility for assessing the appropriateness of the current methodology and making any recommendations for changes should primarily rest with the EWG, though CUB believes that stakeholders should have the opportunity to comment on any recommendations that the EWG may ultimately decide are warranted.

3. Renewable Energy.

a. Re-examine the relative priority of and guidelines for renewable energy.

The Commission should remove the conditional limit on Group 2 spending. Instead, as CUB has proposed in the past, the Commission should either set the allocation of total funds between

Group 1 and Group 2 at fixed percentages or eliminate the distinction between the two groups and allow funding to flow based on market demand.

b. Re-examine how to evaluate the cost-effectiveness of renewable resource programs.

To the extent that goals and funding levels are pegged to the cost-effectiveness of renewable programs, the Commission should recognize that the modified TRC test, as currently formulated, significantly undervalues renewable program cost-effectiveness by failing to account for either avoided capitalized energy or avoided T&D costs.

4. Energy-Water Nexus.

a. Include the energy-water nexus as part of the Quadrennial Planning Process II scope.

Whether or not a program measure has water benefits should not be part of the assessment of whether or not to include that program or measure in the Focus portfolio unless co-funding is proposed by the host water district.

5. Other Issues.

a. Re-examine rate mitigation impact strategies as part of the Quadrennial Planning Process II scope.

Any rate mitigation strategies should be considered on an individual utility basis and should consider the importance of long-term economic benefits of energy efficiency in comparison to any short-term rate impact issues. See *supra* section II.E.2. for CUB's proposed guidelines regarding rate mitigation.

b. Examine how Focus could be used to cost-effectively meet federal carbon standards.

Focus should be one of the most important tools to assist in meeting carbon reduction standards, and the Commission should consider whether legislative changes to remove the cap on Focus spending and to restore the Commission's ability to determine the optimal size and scope of the program should be pursued.

c. Treatment of the $66 million in unspent funds.

The Commission should immediately allow Focus to begin spending down the $66 million in unspent funds on cost-effective energy efficiency programs, and, if it establishes a reserve fund, should include no more than $5 million in that fund.